



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-1411; Directorate Identifier 2011-NM-074-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Model 737 airplanes. This proposed AD would incorporate design changes to improve the reliability of the cabin altitude warning system by requiring installation of a redundant switch of the cabin altitude pressure, replacing the aural warning module (AWM) with a new or reworked AWM, changing certain wire bundles, and connecting certain previously capped and stowed wires, as necessary. This proposed AD, for certain airplanes, would also require modifying the instrument panels, installing light assemblies, modifying the wire bundles, and installing a new circuit breaker, as necessary. This proposed AD was prompted by a report of a lack of cabin pressurization event caused by the flightcrew not receiving an aural warning because of the failure of the cabin altitude pressure switch. We are proposing this AD to prevent failure of the flightcrew to recognize and react to a lack of cabin pressurization, which could result in incapacitation of the flightcrew due to hypoxia (lack of oxygen in the body), and consequent loss of control of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For Boeing service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>. For BAE Systems service information identified in this proposed AD, contact BAE Systems, Attention: Commercial Product Support, 600 Main Street, Room S18C, Johnson City, NY 13790-1806; telephone 607-770-3084; fax 607-770-3015; e-mail CS-Customer.Service@baesystems.com; Internet <http://www.baesystems-ps.com/customersupport>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday

through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Jeffrey Palmer, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: (425) 917-6481; fax: (425) 917-6590; e-mail: jeffrey.palmer@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2011-1411; Directorate Identifier 2011-NM-074-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received a report from an operator of an event in which the flightcrew was not aware of cabin depressurization. The flightcrew also were not aware that passenger oxygen masks had deployed until they were notified by a member of the cabin crew. Further investigations revealed that the flightcrew did not receive an aural warning because of the failure of the cabin altitude pressure switch at 10,000 feet. This condition, if not corrected, could result in failure of the flightcrew to recognize and react to a lack of cabin pressurization, which could result in incapacitation of the flightcrew due to hypoxia (lack of oxygen in the body), and consequent loss of control of the airplane.

Relevant Service Information

We reviewed the following service information:

- Boeing Special Attention Service Bulletin 737-21-1164, dated February 10, 2011 (for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes); and
- Boeing Special Attention Service Bulletin 737-21-1165, Revision 1, dated July 16, 2010 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes).

The service information describes procedures for installing a redundant switch of the cabin altitude pressure, replacing the AWM with a new or reworked AWM, changing certain wire bundles, and connecting certain capped and stowed wires, as necessary.

The service information refers to BAE Systems Service Bulletin 69-78214-31-03, dated January 15, 2009, for guidance on reworking the AWM.

Boeing Special Attention Service Bulletin 737-21-1164, dated February 10, 2011, specifies the concurrent accomplishment of the actions specified in Boeing Alert Service

Bulletin 737-31A1325, dated January 11, 2010 (for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes). Boeing Special Attention Service Bulletin 737-21-1165, Revision 1, dated July 16, 2010, specifies the concurrent accomplishment of the actions specified in Boeing Alert Service Bulletin 737-31A1332, Revision 1, dated June 24, 2010 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes).

For certain airplane configurations, Boeing Alert Service Bulletin 737-31A1325, dated January 11, 2010; and Boeing Alert Service Bulletin 737-31A1332, Revision 1, dated June 24, 2010; describe procedures for modifying the instrument panels, installing light assemblies, modifying the wire bundles, and installing a new circuit breaker, as necessary. We have also received Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes), which added airplanes to the effectivity.

Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011, refers to BAE Systems Service Bulletins 233A2221-31-01, Revision 1, dated March 10, 2011; 233A2221-31-02, dated April 16, 2009; 233A2221-31-03, Revision 1, dated March 10, 2011; 233A2221-31-05, Revision 1, dated March 10, 2011; 233A2222-31-01, Revision 1, dated March 10, 2011; 233A2222-31-02, Revision 1, dated March 10, 2011; 233A2222-31-03, Revision 1, dated March 10, 2011; 233A2222-31-05, Revision 1, dated March 3, 2011; 233A3213-21-01, dated August 12, 2010; and 69-37319-31-05, dated August 26, 2010; as additional sources of guidance for modifying the instrument panels and installing the light assemblies.

Other Relevant Rulemaking

On January 25, 2011, the FAA issued AD 2011-03-14, Amendment 39-16598 (76 FR 6529, February 7, 2011), for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, which currently requires installing two warning level indicator lights on the P2-2 center instrument panel in the flight compartment, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-31A1325, dated January 11, 2010.

In addition, on March 14, 2011, the FAA issued Notice of Proposed Rulemaking (NPRM) FAA-2011-0258 (76 FR 16579, March 24, 2011), for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes, which currently proposes installing two warning level indicator lights on each of the P1-3 and P3-1 instrument panels in the flight compartment, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-31A1332, Revision 1, dated June 24, 2010. We are considering revising NPRM FAA-2011-0258 to refer to Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011.

AD 2011-03-14, Amendment 39-16598 (76 FR 6529, February 7, 2011), and NPRM FAA-2011-0258 (76 FR 16579, March 24, 2011), were prompted by a design change in the cabin altitude warning system. The actions required by that AD and proposed by that NPRM are intended to prevent failure of the flightcrew to recognize and react to a lack of cabin pressurization, which could result in incapacitation of the flightcrew due to hypoxia (lack of oxygen in the body), and consequent loss of control of the airplane.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

Costs of Compliance

We estimate that this proposed AD affects 1,405 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Install a redundant switch of the cabin altitude pressure, replace the AWM with a new or reworked AWM, change certain wire bundles, and connect certain capped and stowed wires.	Up to 31 work-hours X \$85 per hour = up to \$2,635	\$4,082	Up to \$6,717	Up to \$9,437,385
Modify the instrument panels, install light assemblies, modify the wire bundles, and install a new circuit breaker.	Up to 84 work-hours X \$85 per hour = up to \$7,140	\$5,292	Up to 12,432	Up to \$17,466,960

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2011-1411; Directorate Identifier 2011-NM-074-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

The Boeing Company airplanes; certificated in any category, as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model 737-100, -200, -200C, -300, - 400, and -500 series airplanes as identified in Boeing Special Attention Service Bulletin 737-21-1164, dated February 10, 2011.

(2) Model 737-600, -700, -700C, -800, - 900, and -900ER series airplanes as identified in Boeing Special Attention Service Bulletin 737-21-1165, Revision 1, dated July 16, 2010.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 21; Air Conditioning.

(e) Unsafe Condition

This AD was prompted by the report of a lack of cabin pressurization event caused by the flightcrew not receiving an aural warning because of the failure of the cabin altitude pressure switch. We are issuing this AD to prevent failure of the flightcrew to recognize and react to a lack of cabin pressurization, which could result in incapacitation of the flightcrew due to hypoxia (lack of oxygen in the body), and consequent loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Installation

Within 72 months after the effective date of this AD, install a redundant switch of the cabin altitude pressure, replace the aural warning module (AWM) with a new or reworked AWM, change certain wire bundles, and connect certain capped and stowed wires, as applicable, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-21-1164, dated February 10, 2011 (for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes); and Boeing Special Attention Service Bulletin 737-21-1165, Revision 1, dated July 16, 2010 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes).

Note 1: Additional guidance on reworking the AWM can be found in BAE Systems Service Bulletin 69-78214-31-03, dated January 15, 2009.

(h) Concurrent Actions

For airplanes identified in Boeing Alert Service Bulletin 737-31A1325, dated January 11, 2010 (for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes); and Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes): Before or concurrently with accomplishment of the actions specified in paragraph (g) of this AD, as applicable, modify the instrument panels, install light assemblies, modify the wire bundles, and install a new circuit breaker, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-31A1325, dated January 11, 2010 (for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes); and Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes).

Note 2: Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011, refers to BAE Systems Service Bulletins 233A2221-31-01, Revision 1, dated March 10, 2011; 233A2221-31-02, dated April 16, 2009; 233A2221-31-03, Revision 1, dated March 10, 2011; 233A2221-31-05, Revision 1, dated March 10, 2011; 233A2222-31-01, Revision 1, dated March 10, 2011; 233A2222-31-02, Revision 1, dated March 10, 2011; 233A2222-31-03, Revision 1, dated March 10, 2011; 233A2222-31-05, Revision 1, dated March 3, 2011; 233A3213-21-01, dated August 12, 2010; and 69-37319-31-05, dated August 26, 2010; as additional sources of guidance for modifying the instrument panels and installing the light assemblies.

Note 3: AD 2011-03-14, Amendment 39-16598 (76 FR 6529, February 7, 2011), requires accomplishing the actions specified in Boeing Alert Service Bulletin 737-31A1325, dated January 11, 2010 (for Model 737-100, -200, -200C, -300, -400, and -500 series airplanes). Notice of Proposed Rulemaking FAA-2011-0258 (76 FR 16579,

March 24, 2011), is proposing to require Boeing Alert Service Bulletin 737-31A1332, Revision 1, dated June 24, 2010 (for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes). We are considering revising NPRM FAA-2011-0258 to refer to Boeing Alert Service Bulletin 737-31A1332, Revision 2, dated August 18, 2011.

(i) Credit for Actions Accomplished in Accordance with Previous Service Information

Actions accomplished before the effective date of this AD according to Boeing Alert Service Bulletin 737-31A1332, Revision 1, dated June 24, 2010, are considered acceptable for compliance with the corresponding action specified in this AD.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the Seattle ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Jeffrey Palmer, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6481; fax: 425-917-6590; e-mail: jeffrey.palmer@faa.gov.

(2) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>. For BAE Systems service information identified in this AD, contact BAE Systems, Attention: Commercial Product Support, 600 Main Street, Room S18C, Johnson City, NY 13790-1806; telephone 607-770-3084; fax 607-770-3015; e-mail CS-Customer.Service@baesystems.com; Internet <http://www.baesystems-ps.com/customersupport>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on December 16, 2011.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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